PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

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Dina Lakes Wetlands Enhancement And Parsnip Nestbox Monitoring

F. B. Corbould
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The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave. 3rd Floor, Prince George B.C. V2L 3H9

Website: *www.bchydro.bc.ca/environment/initiatives/pwcp/*

This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

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Author(s): Fraser B. Corbould[1]
Address(es): [1] Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave., 3rd Floor Prince George, B.C. V2L 3H9

WILLISTON WILDLIFE PROJECT REPORT

PROJECT DATE: August 18th to 20th, 1993.

PROJECT TYPE: Installation and monitoring of artificial nesting islands and nestboxes.

PROJECT LOCATION: Dina Lake #1 and various wetland sites in the Parsnip Reach area.

PROJECT DETAILS:

Enhancements and monitoring conducted during this period were performed by PWWCP staff and a 4-person native youth crew hired by B.C. Hydro. [The crew coordinator and supervisor was Al Leake and Dan Seymour, respectively.]

Enhancements at Dina Lake #1 involved the installation of two floating islands and six nestboxes (Map 1). The islands were located in shallow bay areas (~2-4m deep) and were positioned approximately 15 metres from shore; both islands were constructed of wood. Water chemistry test, obtained from a 1983 fisheries reconnaissance survey, revealed a surface pH of 8.2 and a total alkalinity of 76.6 mg/l $CaCO_3$. Nestbox site descriptions are presented in Table 1.

Table 1. Site description of nestboxes installed at Dina Lake #1, August 1993.

Nestbox #	Tree Description	Box Ht.	Aspect	Dist. to Water	Ground Cover
Dina 1	birch, dead, 35-45cm dbh,	4m	S	4m	trail at base of tree, light debris near water
Dina 2	birch, healthy, 30-40cm dbh	3m	SW	0m (nestbox) 1.5m (tree base)	tree leans over water
Dina 3	birch, healthy, forked trunk, 40-50cm dbh	4m	S	5m	very limited ground cover
Dina 4	cottonwood, healthy, 55-65cm dbh, beaver activity at base	4m	S	2m	trail at base of tree, some red-osier dogwood
Dina 5	birch, healthy, 30-40cm dbh, beaver activity at base	4m	SW	3m	
Dina 6	lodgepole pine, healthy, 40-50cm dbh	4m	S	5m	clear around base

The placement of floating islands provides stable nesting sites that adjust to fluctuating water levels; Canada geese are usually the principal users of the islands. Isolated from the shoreline, the islands also protect the nesting waterfowl from predators. Nestboxes provide artificial nesting sites in areas where natural cavities are lacking, or not available to cavity-nesting waterfowl, such as bufflehead, goldeneyes and mergansers.

Map 1. Locations of floating islands and nestboxes installed at Dina Lake #1, August 1993.

In addition to the enhancements at Dina Lake, 16 nestboxes and 2 floating islands within the Parsnip Reach area were monitored for use. Table 2 provides a summary of the nestboxes monitored. Islands were monitored at Tudyah North and 60 Km Marsh. The PVC island at Tudyah North exhibited no waterfowl use, and the cattails present are showing signs of decay. Grass was found to be sprouting naturally on the island; some grass seed was added to further promote grass establishment. No sign of nesting was observed on the wooden island at 60 Km Marsh, but evidence of waterfowl loafing (scat) and muskrat use (scat, digging) was apparent.

Table 2. Nestboxes monitored within the Parsnip Reach, August 1993.

Location	Box #	Wildlife Use	Comments (tree/box condition)
Tutu B	1	3 kestrel eggs (~2x3cm; white): 1 hatched, 2 unhatched (early dev'mt of embryo)	good, replaced sawdust
Tutu B	2	none	good, some sawdust added
Tutu B	3	none	good
Tutu B	4	none	tree in fair health
Mugaha B	7	mat of arboreal lichen, kestrel feathers	good, cleaned and added sawdust
Mugaha B	8	kestrel feathers and scat	good, cleaned and added sawdust
Mugaha A	9	kestrel feathers	good, some sawdust added
Mugaha A	10	kestrel feathers and scat	good, cleaned and added sawdust
Tudyah North	11	none	good
Tudyah North	12	none	good
Tudyah North	13	none	good
Tudyah North	14	goldeneye nest (feathers), no eggs or shell fragments	good, sawdust replaced
60 Km Marsh	15	none	good, some sawdust added
60 Km Marsh	16	none	good, some sawdust added
60 Km Marsh	17	none	good, some sawdust added
60 Km Marsh	18	none	good, some sawdust added

PROJECT COST:

Nesting Islands (2)		$ 0.00[a]
Nestboxes (6)		$120.00
Cable & Weights		$ 0.00[b]
	Sub-total	$120.00
	Tax (PST)	$ 8.40
	TOTAL	$128.40

[a] Nesting islands were constructed and donated by the Forest Resources Program (Ron Crosby) from Mackenzie Secondary School; approximate value $750.

[b] Cables and cable clamps were purchased by B.C. Hydro (youth crew)[approximate value $60], and anchor weights were donated by Ducks Unlimited (value $24).

PROJECT MONITORING

1) Continue monitoring of floating islands for use and structural condition.
2) Continue monitoring nestboxes to identify use and success of nestboxes and nestbox site selection.
3) Conduct waterfowl inventories at a reduced level.

RECOMMENDATIONS

1) Where possible, install wooden nesting islands as cost is equivalent but maintenance is greatly reduced.
2) Replace cattails on PVC islands at Tudyah North, Tutu B and Wapoose Lake (Hudson's Hope area). Inspect wooden island in Tutu Bay. Approach the Mackenzie schools and other groups (eg. Cubs, Scouts, Fish and Game Association) to help monitor and maintain the enhancements.
3) Burn grassy Mischinsinlika foreshore in spring. Monitor and, if successful, carry out further programs to ensure suitable foraging areas for migrant and nesting waterfowl.